

REMARKS

Claims 1 and 3-20 are currently pending. Applicants note with appreciation the indication that claims 11-14 contain allowable subject matter. Applicants also note the withdrawal of the restriction requirement with much appreciation.

The Office Action includes an objection to claim 15, noting the unnecessary phrase "one of" therein. Claim 15 has been amended in accordance with the Examiner's helpful suggestion. Accordingly, withdrawal of this objection is respectfully requested.

The Office Action also includes a rejection of claim 16 under 35 U.S.C. §, second paragraph, suggesting it claims both an apparatus and method steps of using the apparatus. Again, the Examiner's helpful suggested change has been adopted, thus rendering moot this rejection. Accordingly, withdrawal thereof is respectfully requested.

The Office Action also includes a rejection of claims 7 and 15 under 35 U.S.C. §101, suggesting that the claimed invention is directed to non-statutory subject matter. While there is room for disagreement as to the Office's position regarding tangible media, the changes suggested in the Office Action for both these claims does not create undue concern and have been adopted. In light of these changes, applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §101.

The Office Action also includes a rejection of claims 1, 7-10 and 15-17 under 35 U.S.C. §102(e) as allegedly being anticipated by the Hiraga et al patent publication (U.S. Patent Application Publication No. 2005/0002571). This rejection has been rendered moot by the incorporation of the recitations of claim 3 into claim 1

and the subsequent cancellation of claim 3. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

Finally, the Office Action includes a rejection of claims 2-6 under 35 U.S.C. §103 as allegedly being unpatentable over the Hiraga et al patent publication in view of the Zaharia et al publication (Zaharia & Pretux, "3D Shape-based retrieval within the MPEG-7 framework," Non Linear Image Processing and Pattern Analysis XII, Proceedings of SPIE, Vol. 4304, 2001, pp. 133-145.) This rejection is respectfully traversed.

Claim 1 recites, among other features, generating nodes that respectively correspond to parts of a part based representation of a 3-D shape model, the nodes including unary attributes of the parts, wherein the unitary attributes of the nodes comprise at least a volume, eccentricities, and a convexity. For this latter feature, the Office cites to the Zaharia et al article, Section 1, page 134, for allegedly teaching this feature. Applicants respectfully disagree with this characterization of the secondary reference, as well as disagree with the applicability of the secondary reference to the primary reference.

Specifically, the Zaharia et al article, on the first paragraph on page 134, mentions various approaches to the notion of using shape in 3-D object recognition schemes, including "[v]olumetric-based approaches to 3-D object recognition which include multi-resolution binary pyramids, set of centers of maximal series and distance transformation," citing to two different articles, one for the binary pyramids and the other for the maximal spheres and distance transformations. However, this description falls short of describing a method which involves, *inter alia*, generating nodes that respectively correspond to parts of a parts-based representation of a 3-D

shaped model, the nodes including unary attributes of the parts, wherein the unary attributes of the nodes comprise at least a volume, eccentricities, and a convexity. By way of supporting disclosure, reference is made to the paragraphs beginning at page 8, lines 4-23, for instance, which explain the general principle, as well as Figure 6, for instance. Hence, even assuming *arguendo* that the Zaharia et al article would suggest some modification to the system disclosed in the Hiraga et al patent, a hypothetical result would not meet the recitations of amended claim 1. Independent claim 16 shares this distinction.

Additionally, the combination is not suggested by the prior art. The mere fact that key words were used in the Zaharia et al. article which meet words of the present claims is not sufficient to suggest a modification of the system disclosed in the Hiraga et al patent. The Office's suggested motivation for the modification is that "to do so would at least improve the recognition and/or searching process." Applicants could not find this teaching in the applied art, but rather found it only in applicants' own disclosure. This suggests the improper use of hindsight in reconstructing the present invention using the applicants' claims as a template. Stated in a different context, there is nothing in the prior art that would suggest that such an improvement would be the result, or even that the combination would be feasible.

The dependent claims further remove the present invention from the applied art. For instance, claim 10 recites that the step of transforming the received 3D graphic models into the perceptual 3D shape descriptor includes a "user editing the transformed 3D shape descriptor if required." The Office suggests this is taught in the Hiraga et al patent at paragraphs 191-192. Applicants respectfully point out that these paragraphs deal with entering a keyword for keyword searching, and therefore

does not meet the recitations of claim 10, to use but one example. Other distinctions will not be belabored for sake of brevity.

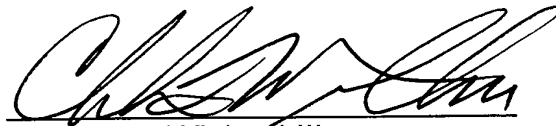
In light of the foregoing, applicants respectfully request reconsideration and allowance of the above-captioned application. Should any residual issues exist or arise, the Examiner is invited to contact the undersigned at the number listed below.

Respectfully submitted,

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